

# STRATEGIC PLANNING FOR NATIONAL MANUFACTURING COMPETITIVENESS

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## HEARING

BEFORE THE

SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY  
COMMITTEE ON SCIENCE, SPACE, AND  
TECHNOLOGY

HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

WEDNESDAY, JULY 10, 2013

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# **STRATEGIC PLANNING FOR NATIONAL MANUFACTURING COMPETITIVENESS**

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**WEDNESDAY, JULY 10, 2013**

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,  
*Washington, D.C.*

The Subcommittee met, pursuant to call, at 1:35 p.m., in Room 2318 of the Rayburn House Office Building, Hon. Larry Bucshon [Chairman of the Subcommittee] presiding.

LAMAR S. SMITH, Texas  
CHAIRMAN

EDDIE BERNICE JOHNSON, Texas  
RANKING MEMBER

**Congress of the United States**  
**House of Representatives**

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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Subcommittee on Research and Technology Hearing

***Strategic Planning for National Manufacturing Competitiveness***

**Wednesday, July 10, 2013**

**2:00 p.m. – 4:00 p.m.**

**2318 Rayburn House Office Building**

**Witnesses**

**Dr. Jonathan Rich**, Chairman and CEO, Berry Plastics, Inc.

**Ms. Deborah Wince-Smith**, President and CEO, Council on Competitiveness

**Mr. Zach Mottl**, Chief Alignment Officer, Atlas Tool and Die Works, Inc.

**U.S. HOUSE OF REPRESENTATIVES  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY  
SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY**

*Strategic Planning for National Manufacturing Competitiveness*  
**Wednesday, July 10, 2013**  
**2:00 p.m. – 4:00 p.m.**  
**2318 Rayburn House Office Building**

**Purpose**

On Wednesday, July 10, the Subcommittee on Research and Technology will hold a legislative hearing on the need for strategic planning for national manufacturing competitiveness. The hearing will focus specifically on H.R. 2447, the “American Manufacturing Competitiveness Act”, sponsored by Rep. Dan Lipinski. The legislation would modify an existing report required by the America COMPETES Reauthorization of 2010 by directing the National Science and Technology Council’s Committee on Technology to lead other agencies and stakeholders in developing a national manufacturing competitiveness strategy every four years. The strategy would aim to advance policies, such as streamlining certain government regulations and assisting with the transfer of federally-funded research and development into new products and jobs. It would require the NSTC to include a strategic plan to improve government coordination and provide long-term guidance for Federal programs and activities in support of manufacturing competitiveness, including advanced manufacturing research and development.

**Witnesses**

- Dr. Jonathan Rich, Chairman and CEO, Berry Plastics, Inc.
- Ms. Deborah Wince-Smith, President and CEO, Council on Competitiveness
- Mr. Zach Mottl, Chief Alignment Officer, Atlas Tool and Die Works, Inc.

**Background**

Manufacturing has been a significant part of American productivity since the industrial revolution. Manufacturing’s share of gross domestic product is approximately 11 percent, and manufacturing output has risen by 13 percent in the last several years. However, employment in the manufacturing sector as a share of the economy is significantly lower than in the post-World War II era. Despite recent increases<sup>1,2</sup> American manufacturing has seen large employment declines since 2000<sup>3</sup>. Many recent reports have cited declines in manufacturing employment as an indicator of a decrease in U.S. economic competitiveness.<sup>4</sup> Others suggest that declines are primarily attributed to increases in productivity<sup>5</sup>.

<sup>1</sup> Made in America, Again, August 2011, Boston Consulting Group.

<sup>2</sup> Manufacturing’s Secret Shift: Gaining Competitive Advantage by Getting Closer to the Customer; March 2011, Accenture

<sup>3</sup> Bureau of Labor Statistics, <http://www.bls.gov/data/>.

<sup>4</sup> S. Ezell and R. Atkinson, “The Case for a National Manufacturing Strategy,” April, 2011, The Information Technology and Innovation Foundation. <http://www.itif.org/files/2011-national-manufacturing-strategy.pdf>

<sup>5</sup> Council on Competitiveness Report, Make: An American Manufacturing Movement, December 2011, <http://www.compete.org/publications/detail/2064/make/>

Most stakeholders agree that manufacturing continues to be an important part of the American economy. Manufacturing is generally more research and development intensive than other sectors of the economy<sup>6</sup>, and therefore more closely tied to the nation's innovative capacity<sup>7</sup>. However, stakeholders express a variety of opinions on the appropriate prescription to maintain or strengthen the American manufacturing sector.

### **Strategic Planning for Manufacturing**

Across the globe, many nations have developed specific manufacturing strategies that guide both government investment and private sector focus in manufacturing. In the United States, federal government efforts to promote manufacturing have largely focused on “advanced manufacturing”, or manufacturing processes and products resulting from new technologies. In order to keep the U.S. competitive and ensure that new technologies are created domestically, some advocate that the U.S. should have a more defined manufacturing strategy<sup>8,9</sup>.

In its “Report to the President on Ensuring American Leadership in Advanced Manufacturing” in 2011, the President’s Council of Advisors on Science and Technology (PCAST) stated: “While the United States should avoid industrial policy—making bets on particular companies and industries—we should be unabashed in pursuing an innovation policy. Specifically, the Nation requires a strategy for supporting innovation in advanced manufacturing. The objectives of an innovation policy should be to ensure (i) that the U.S. provides the best overall environment in which to do business, (ii) that powerful new technologies are developed here and (iii) that technology-based enterprises have the infrastructure required to flourish here.”<sup>10</sup>

The COMPETES Act of 2010 included a provision requiring the interagency National Science and Technology Council to provide a strategic plan for advanced manufacturing R&D every four years. The first of these reports was released in February 2012<sup>11</sup>.

### **H.R. 2447, the American Manufacturing Competitiveness Act of 2013**

#### **Summary**

The proposed legislation would strike and replace an existing requirement for the National Science and Technology Council’s Committee on Technology to develop a 4-year strategic plan on advanced manufacturing research and development with a national manufacturing competitiveness strategic plan.

<sup>6</sup> OECD Science, Technology and R&D Statistics <http://www.oecd-ilibrary.org/content/data/data-00183-en>

<sup>7</sup> S. Ezell and R. Atkinson, “The Case for a National Manufacturing Strategy,” April, 2011, The Information Technology and Innovation Foundation. <http://www.itif.org/files/2011-national-manufacturing-strategy.pdf>

<sup>8</sup> New America Foundation report, *Value Added: America's Manufacturing Future*, April 2012,

[http://newamerica.net/publications/policy/value\\_added\\_americas\\_manufacturing\\_future](http://newamerica.net/publications/policy/value_added_americas_manufacturing_future)

<sup>9</sup> S. Ezell and R. Atkinson, “The Case for a National Manufacturing Strategy,” April, 2011, The Information Technology and Innovation Foundation. <http://www.itif.org/files/2011-national-manufacturing-strategy.pdf>

<sup>10</sup> The President's Council of Advisors on Science and Technology (PCAST), Report to the President on Ensuring American Leadership in Advanced Manufacturing, June 2011.

<sup>11</sup> National Science and Technology Council, A National Strategic Plan for Advanced Manufacturing, Feb. 2012.

It calls on the Committee to conduct an analysis of factors that impact the competitiveness and growth of U.S. manufacturing, including: research and development; technology transfer; the manufacturing industrial base for national security; the workforce; trade and intellectual property policies; tax policies; emerging markets; and policies of our global competitors.

The goals of the required strategic plan are defined as: promoting growth of the U.S. manufacturing sector; supporting a skilled workforce; enabling innovation and investment in domestic manufacturing; and supporting national security.

The strategic plan shall contain near and long-term objectives to meet the defined goals, including research and development, and describe the progress in achieving previous plans' objectives. It shall also define the role of each agency as well as federally-supported advanced manufacturing activities to foster the technology transfer of research results into new products and processes. Additionally the plan shall describe federal programs to support the manufacturing workforce and small and medium-sized manufacturers.

The plan shall also consider input from a wide variety of stakeholders as well as the analysis of factors that impact U.S. manufacturing competitiveness.

H.R. 2447 also requires the President's annual budget to include information regarding the consistency of the budget with the goals and recommendations included in the strategic plan.

#### **Issues for Examination**

Witnesses have been asked to provide comments and recommendations on H.R. 2447 in their testimony. Committee Members will assess the potential benefits and challenges of a national manufacturing competitiveness strategy as outlined in the legislation.

Chairman BUCSHON. The Subcommittee on Research and Technology will now come to order.

Good morning and welcome to today's hearing entitled "Strategic Planning for National Manufacturing Competitiveness."

In front of you are packets containing the written testimony, biographies, and truth-in-testimony disclosures for today's witness panel. I now recognize myself for five minutes for an opening statement.

Again, good afternoon. I would like to welcome everyone to today's hearing, which is being held to examine H.R. 2447, the "American Manufacturing Competitiveness Act," sponsored by the Subcommittee Ranking Member, Mr. Lipinski.

Manufacturing has been a critical part of the American economic competitiveness since the industrial revolution. Many of the groundbreaking technologies that are widely deployed today are the result of American ingenuity and manufacturing.

Manufacturing represents approximately 11 percent of the American economy, and manufacturing output has risen by 13 percent over the last several years. Manufacturing also has the greatest multiplier effect of any major sector in the American economy. According to the Bureau of Economic Analysis, for each dollar spent in manufacturing generates an additional \$1.35 in spending.

In my State of Indiana, there are 9,698 manufacturers, and probably changing every day, employing 556,537 workers. With 16.4 percent of our workforce employed in the manufacturing industry, Indiana ranks first in manufacturing employment and second in manufacturing as a gross state product nationwide. The 8th District of Indiana is home to many of these manufacturers and I have seen the work being done firsthand at manufactures like Berry Plastics, whose CEO will testify today, Toyota Motor and Alcoa, amongst many others.

Universities—along with the manufacturers, universities like Vincennes University, the University of Evansville, and the University of Southern Indiana, offer degrees related to advanced manufacturing and are working closely with businesses to develop a talented and well-trained workforce, which is critical.

Clearly, manufacturing is of critical importance to the American economy. However, employment in this sector is significantly lower as a share of the economy than in the post-World War II era. Further, we have seen reports from prominent think tanks such as the Information Technology and Innovation Foundation, arguing that America is losing its competitiveness in manufacturing and may suffer relative decline as a result.

As a country, we lack a strategic plan to guide economic policy decisions that affect American manufacturing competitiveness. We have heard a number of proposals by the Administration to establish expensive Federal manufacturing programs. However, these programs have come without a plan that addresses the comprehensive competitive environment faced by today's American manufacturers.

Today's hearing allows us to examine the *American Manufacturing Competitiveness Act of 2013*, which calls on the National Science and Technology Council's Committee on Technology to develop a national manufacturing competitiveness plan. It would task

the Committee with conducting an analysis of the factors that affect American manufacturing competitiveness such as tax issues, trade, workforce, and intellectual property factors.

The goals of the strategic plan are to promote economic and employment growth in the manufacturing sector, support a skilled workforce, enable innovation and investment in manufacturing, and support national security. I believe such a strategic plan, if developed responsibly, can have positive implications for America's manufacturers and can lead to policies that improve our competitiveness.

However, I have some reservations about the development and implementation of the plan. First, it is critically important that a strategic plan reflects the real needs of our Nation's manufacturers and should not be politicized and used as a tool to advance favored interests.

Second, reflecting the recommendations of the President's Council of Advisors on Science and Technology, a manufacturing plan must not serve as industry policy. The Federal Government should not be in the business of picking winners and losers. Finally, we should ensure that this plan does not promote manufacturing at the expense of all the other sectors of our economy.

I am looking forward to hearing from our witnesses on their thoughts about the proposed legislation, including any recommendations they have for possible improvements.

I would like to thank our witnesses for being here today and look forward to their testimony.

[The prepared statement of Mr. Bucshon follows:]

PREPARED STATEMENT OF SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY  
CHAIRMAN LARRY BUCSHON

Good afternoon, I'd like to welcome everyone to today's hearing, which is being held to examine H.R. 2447, the *American Manufacturing Competitiveness Act*, sponsored by the Subcommittee's Ranking Member, Mr. Lipinski.

Manufacturing has been a critical part of American economic competitiveness since the industrial revolution. Many of the groundbreaking technologies that are widely deployed today are the result of American ingenuity and manufacturing.

Manufacturing represents approximately 11 percent of the American economy, and manufacturing output has risen by 13 percent over the last several years. Manufacturing also has the greatest multiplier effect of any major sector in the American economy. According to the Bureau of Economic Analysis, each dollar spent in manufacturing generates an additional \$1.35 in spending.

In my state of Indiana, there are 9,698 manufacturers employing 556,537 workers; with 16.4 percent of our workforce employed in the manufacturing industry, Indiana ranks first in manufacturing employment and second in manufacturing as a gross state product. The 8th district of Indiana is home to many of these manufacturers and I have seen the work being done firsthand at manufactures like Berry Plastics, whose CEO will be testifying before us today, Toyota Motor and Alcoa. Along with the many manufacturers in our district, universities like Vincennes University, the University of Evansville and the University of Southern Indiana offer degrees related to advanced manufacturing and work closely with these entities to develop a talented and well-trained workforce.

Clearly, manufacturing is of critical importance to the American economy. However, employment in this sector is significantly lower as a share of the economy than in the post-World War II era. Further, we have seen reports from prominent think tanks such as the Information Technology and Innovation Foundation, arguing that America is losing its competitiveness in manufacturing and may suffer relative decline as a result.

As a country, we lack a strategic plan to guide economic policy decisions that affect American manufacturing competitiveness. We have heard a number of pro-

posals by the Administration to establish expensive federal manufacturing programs. However, these programs have come without a plan that addresses the comprehensive competitive environment faced by America's manufacturers.

Today's hearing allows us to examine the *American Manufacturing Competitiveness Act of 2013*, which calls on the National Science and Technology Council's Committee on Technology to develop a national manufacturing competitiveness strategic plan. It would also task the Committee with conducting an analysis of the factors that affect American manufacturing competitiveness, such as tax, trade, workforce, and intellectual property factors.

The goals of the strategic plan are to promote economic and employment growth in the manufacturing sector, support a skilled workforce, enable innovation and investment in manufacturing, and support national security. I believe that such a strategic plan, if developed responsibly, can have positive implications for America's manufacturers and can lead to policies that improve our competitiveness.

However, I have reservations about the development and implementation of this plan. First, it is critically important that a strategic plan reflects the real needs of our nation's manufacturers and should not be politicized and used as a tool to advance favored interests. Second, reflecting the recommendations the President's Council of Advisors on Science and Technology, a manufacturing plan must not serve as industrial policy. The federal government should not be in the business of picking economic winners and losers. Finally, we should ensure that this plan does not promote manufacturing at the expense of other sectors in the economy.

I am looking forward to hearing from our witnesses on their thoughts about the proposed legislation, including any recommendations they have for improvements. We thank our witnesses for being here today and we look forward to your testimony.

Chairman BUCSHON. And I now recognize the Ranking Member, Mr. Lipinski, the gentleman from Illinois, for his opening statement.

Mr. LIPINSKI. Thank you, Mr. Chairman. I would like to thank you and I would like to thank Chairman Smith for holding this hearing on this bipartisan bill I introduced with Representative Kinzinger, as you said, the *American Manufacturing Competitiveness Act*, H.R. 2447. I have been working for the last four years on this legislation to put more Americans to work by creating an economic environment that would boost domestic manufacturing.

In each of the past two Congresses under both Democratic and Republican majorities, this bill has passed with overwhelming support, and I am hopeful that we can work together to not only pass the bill in the House but finally get this commonsense idea into law. At its core, this legislation is simply about bringing the private and public sectors together to develop a forward-looking set of recommendations for tax, workforce, energy, trade, R&D, regulatory, and other policies that would best enable domestic manufacturers to compete globally and put more Americans to work.

A vibrant manufacturing sector is critical for America's economic success and success of the middle class. In 2011, manufacturing contributed \$1.8 trillion to our Nation's economy and accounted for 47 percent of all U.S. exports. Successful manufacturers provide the economy with huge job numbers. For example, Boeing employs 172,000 people compared to Facebook, which employs about 4,900 people. These are jobs with wages and benefits that are 1/3 higher than in other sectors.

Plus, manufacturing has an incredibly high multiplier effect. For every manufacturing job we create, we add five additional jobs, and as a source of nearly 2/3 of U.S. investment in research and development, manufacturing drives innovation. When we lose our capacity to manufacture, we lose much of our ability to create the breakthrough technologies and products of tomorrow. Simply put, made

in America equals American jobs and a strong economy. And let us never forget that manufacturing is critical to defending America. We cannot afford to outsource our Nation's defense.

While manufacturing remains vital to the American economy, since the 1970s, the number of manufacturing jobs has been shrinking from 20 million in 1979 to fewer than 12 million today. The recent recession hit workers in manufacturing especially hard, and China is poised to overtake America as the world's leading manufacturer. The hemorrhaging of manufacturing jobs has contributed to the stagnation of middle-class wages. Since 2000, inflation adjusted median household income has fallen by about \$4,800. But recently, there have been good signs with American manufacturing showing signs of a comeback. Continued American leadership in innovation and a domestic energy boom could help spur a manufacturing renaissance.

However, challenges do remain. Many other nations have national manufacturing strategies. It is not just countries like China but also Japan, Germany, United Kingdom, and many others have strategies to help their domestic manufacturers. Meanwhile, the United States has a multitude of overlapping Federal agencies and policies that impact manufacturers without any coordination.

Let me be clear. What this bill calls for is not an industrial policy or picking winners and losers, but the Federal Government already has countless departments, agencies, programs, and policies that affect manufacturing from our tax code to our energy and environmental policies to name just a few. Most importantly for this committee, our government also has policies and programs related to research and development, technology transfer, education, and workforce. However, we have no one examining the impact that government policies are having on manufacturing and how we can be more efficient and effective. This is why I have introduced this legislation.

Through coordination of various government agencies that are most involved in manufacturing and, most importantly, coordination with private sector leaders, an evaluation would be conducted of our manufacturing sector's current state and what policies would create the best economic environment in which manufacturers would thrive. It is vitally important that this be a recurrent effort wherein we can reassess the global and domestic economic environment, technology developments, and other events that will help the United States adapt its policies with the changing world.

At the end of the day, this bill is about setting aside politics and implementing policies that will create an environment conducive to the flourishing of American manufacturing, which is vital for middle-class American jobs and for national security. If we continue to muddle through without a coordinated plan, government will still be impacting manufacturing but in an uncoordinated, often inefficient, sometimes wasteful manner that handcuffs American businesses. We should change this policy.

I look forward to hearing from all of our witnesses about how we can best do this. Thank you.

[The prepared statement of Mr. Lipinski follows:]

PREPARED STATEMENT OF SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY  
RANKING MINORITY MEMBER DANIEL LIPINSKI

I would like to thank Chairman Smith and Chairman Buschon for holding this hearing on the bipartisan bill I have introduced with Rep. Kinzinger, the American Manufacturing Competitiveness Act, H.R. 2447.

I have been working for the last four years on bipartisan legislation that would put more Americans to work by creating an economic environment that would boost domestic manufacturing. In each of the past two Congresses—under both Democratic and Republican majorities—the bill has passed with overwhelming support. I am hopeful that we can now work together to not only pass a bill in the House, but finally get this common-sense idea into law.

At its core, this legislation is simply about bringing the private and public sectors together to develop a forward-looking set of recommendations for the tax, workforce, energy, trade, R&D, regulatory, and other policies that will best enable domestic manufacturers to compete globally and put more Americans to work.

A vibrant manufacturing sector is critical for America's economic growth and the success of the middle class. In 2011, manufacturing contributed \$1.8 trillion to our nation's economy and accounted for 47 percent of all U.S. exports. Successful manufacturers provide the economy with huge job numbers. For example, Boeing employs 172,000 people compared to Facebook which employs about 3,000 people. These are jobs with wages and benefits that are one-third higher than in other sectors. Plus manufacturing has an incredibly high multiplier effect. For every manufacturing job we create, we add five additional jobs. And as a source of nearly two-thirds of U.S. investment in research and development, manufacturing drives innovation.

When we lose our capacity to manufacture, we lose much of our ability to create the breakthrough technologies and products of tomorrow. Simply put, "Made in America" equals American jobs and a strong economy.

And let us never forget that manufacturing is critical to defending America. We cannot afford to outsource our nation's defense.

But while manufacturing remains vital to the American economy, since the 1970s the number of manufacturing jobs has been shrinking, from 20 million in 1979 to fewer than 12 million today. The recent recession hit workers in manufacturing especially hard, and China is poised to overtake America as the world leader in manufacturing. The hemorrhaging of manufacturing jobs has contributed to the stagnation of middle-class wages—since 2000, the inflation-adjusted median household income has fallen by about \$4800.

But recently there has been some good news, with American manufacturing showing signs of a comeback. Continued American leadership in innovation and a domestic energy boom could help spur a manufacturing renaissance. However, challenges remain and need to be addressed. Many other nations have national manufacturing strategies. This is not just countries like China, but also Japan, Germany, and the United Kingdom, among many others, have strategies to help their domestic manufacturers. Meanwhile the U.S. has a multitude of overlapping federal agencies and policies that impact manufacturers without any coordination.

Let me be clear, what this bill calls for is not an industrial policy or picking winners and losers. But the federal government already has countless departments, agencies, programs, and policies that affect manufacturing, from our tax code to our energy and environmental policies to name just a few.

Most importantly for this Committee, our government also has policies and programs related to research and development, technology transfer, education and workforce.

However, we have no one examining the impact that government policies are having on manufacturing and how we can be more efficient and effective. This is why I have introduced this legislation. Through coordination of various government agencies that are most involved in manufacturing, and most importantly, coordination with private sector leaders, an evaluation would be conducted of our manufacturing sector's current state and what policies would create the best economic environment in which manufacturers would thrive. And it is vitally important that this be a recurrent effort, wherein we can reassess the global and domestic economic environment, technology developments, and other events that will help the United States adapt its policies with the changing world.

At the end of the day, this bill is about setting aside politics and implementing policies that will create an environment conducive to the flourishing of American manufacturing, which is vital for middle class American jobs and for national security. If we continue to muddle through without a coordinated plan, government will still be impacting manufacturing, but in an uncoordinated, often inefficient, some-

times wasteful manner that handcuffs American business. We should change this policy.

Chairman BUCSHON. Thank you, Mr. Lipinski.

The Chair now recognizes the Chairman of the full Committee, Mr. Smith, for an opening statement.

Chairman SMITH. Thank you, Mr. Chairman. Also, I would like to thank the Subcommittee's Ranking Member, Dan Lipinski, for sponsoring the bill we are considering at this hearing, the *American Manufacturing Competitiveness Act of 2013*. And, Dan, I didn't realize until your opening statement that you have been working on it for 4 long years. So I am glad we are having this hearing today.

And I support Mr. Lipinski's overarching goal, the creation of a manufacturing strategy to better guide government policies and Federal spending. We must foster innovation so that powerful new technologies are developed here and not overseas, and so that the United States provides the best environment in which to do business. Made in America is a label we want to see on advanced technologies coming out of American laboratories and factories. And I am looking forward to this hearing today to focus our discussion on what challenges American manufacturers currently face, what issues this Federal manufacturing strategy should address in order to ensure American competitiveness, and possible policy recommendations as well.

Finally, Dr. Rich, I understand you manufacture a number of objects, but one of them is fancy coffee cups we have in front of us today up here. So thank you for that.

And thank you, Mr. Chairman. I will yield back.

[The prepared statement of Mr. Smith follows:]

#### PREPARED STATEMENT OF COMMITTEE CHAIRMAN LAMAR SMITH

Thank you, Chairman Bucshon, for yielding me time. I would like to thank the Subcommittee's Ranking Member, Dan Lipinski, for sponsoring the bill we are considering at this hearing, *The American Manufacturing Competitiveness Act of 2013*.

While I share the reservations expressed by Dr. Bucshon about some aspects of the bill, I support Mr. Lipinski's overarching goal—the creation of a manufacturing strategy to better guide government policies and federal spending.

We must foster innovation so that powerful new technologies are developed here and not overseas and so that the United States provides the best environment in which to do business. "Made in America" is a label we want to see on advanced technologies coming out of American laboratories and factories.

I'm looking forward to this hearing today to focus our discussion on what challenges American manufacturers currently face, what issues this federal manufacturing strategy should address in order to ensure American competitiveness, and possible policy recommendations.

I would also like to make a public commitment to Ranking Member Johnson that the Committee will hold a hearing on her manufacturing bill in September.

Chairman BUCSHON. Great.

If there are Members who wish to submit additional opening statements, your statements will be added to the record at this point.

Chairman BUCSHON. Now, it is my pleasure to introduce our witnesses. Our first witness is Dr. Jonathan Rich, the Chairman and CEO of Berry Plastics, which is located in Evansville, Indiana, in my district.

With a portfolio of more than 13,000 products, Berry Plastics is one of the largest global manufacturers of flexible and rigid plastic packaging for food, personal care, pharmaceutical, healthcare, and industrial applications—including the cup that Chairman Smith just pointed out.

I had the opportunity to tour their headquarters in Evansville and see firsthand the impressive manufacturing done at this facility. And Berry Plastics employs 15,000 workers at 88 global manufacturing facilities with approximately 70 of those located in the United States.

Dr. Rich has a bachelor's of science degree in chemistry from Iowa State University and a Ph.D. in chemistry from the University of Wisconsin, Madison. In 2010, he was granted an honorary doctorate of science degree at Iowa State University. Dr. Rich is an inventor with more than 25 issued United States patents and has published 14 scientific journal articles. He is a past Director of the Rubber Manufacturing Association and the International Institute of Synthetic Rubber Producers and is a member of the American Chemical Society and the Society of the Plastics Industry. Welcome, Dr. Rich.

Our second witness is Ms. Deborah Wince-Smith, President and CEO of the Council on Competitiveness. She has more than 20 years of experience as a senior U.S. Government official. Notably, she served as the Nation's first Senate-confirmed Assistant Secretary of Commerce for Technology Policy in the Administration of President George H. W. Bush overseeing Federal technology transfer policy, implementation of the Bayh-Dole Act, and the White House National Technology Initiative. Ms. Wince-Smith graduated magna cum laude from Vassar College with a bachelor's of arts degree. At King's College at the University of Cambridge she read for a master's degree in classical archaeology. In 2006, she received an honorary doctorate in humanities from Michigan State University.

I now would like to yield to the Ranking Member, Mr. Lipinski, to introduce our third witness.

Mr. LIPINSKI. Thank you, Mr. Chairman. It is my pleasure to introduce our final witness, Mr. Zack Mottl. Mr. Mottl is the fourth generation of his family to own and operate Atlas Tool and Die Works, which is located in Lyons, Illinois, in my district. The company was founded in 1918 and it is a world-class precision manufacturing facility offering a broad array of metal manufacturing services for the defense, aerospace, telecommunication, electronics, and medical industries, among others.

In his current role as Chief Alignment Officer, Zack works not only to meet the business needs of new and current customers but he is engaged in outreach and development strategies that identify operational improvements. In addition to his leadership at Atlas, Zack is serving a second term on the Tooling and Manufacturing Association of Illinois Board of Directors. TMA represents over 1,000 member companies. In 2011 he was elected by the board to serve as TMA's Chairman.

I have been to Atlas a number of times and I am always impressed with the work that they are doing and I appreciate hearing from Zach about the difficulties that small manufacturing businesses are facing in America. It is my pleasure to have Zach testify

today and offer his perspective on the need for national manufacturing strategy. With that, I welcome Zach Mottl and I yield back.

Chairman BUCSHON. Thank you. I now would like to recognize Dr. Rich for five minutes for his testimony.

**TESTIMONY OF DR. JONATHAN RICH, CHAIRMAN AND CEO,  
BERRY PLASTICS, INC.**

Dr. RICH. Well, good afternoon, Mr. Chairman and Members of the Committee. My name is John Rich. I am the Chairman and CEO of Berry Plastics Operation.

Berry Plastics, headquartered in Evansville, Indiana, in Indiana's 8th Congressional District, is one of the largest food, personal care, healthcare, pharmaceutical, and industrial packaging companies in the United States. Starting from a small beginning in 1967 with three employees and one plastic injection molding machine, today, we employ over 15,000 people at approximately 70 United States manufacturing warehousing facilities, which are located in more than 30 different States.

A significant milestone was reached last October when we took the company public and shares of our common stock began trading on the New York Stock Exchange. While Berry Plastics is not a household name, we have over 13,000 customers and we manufacture over 50,000 different packages with our products being found in nearly every household in America, and I have yet to meet someone who doesn't have at least five of our products at home right now.

Even though Berry is a significant industry player, the global packaging industry in which we participate is extremely competitive. As such, we are diligent in pursuing those initiatives which will allow us to best meet or exceed our customer's expectations. Berry's competitive advantage is rooted in our expertise in manufacturing. Each year, we typically invest approximately \$250 million in state-of-the-art capital equipment and \$50 million in product and manufacturing process research and development. These investments in manufacturing innovation, new product development, and the investments we have made in training for our people are the primary factors which have allowed us to grow at over 20 percent per year since 1995. It is also the principal reason that we have been able to compete and win in the ever more challenging global marketplace. And yet, if we stop innovating and investing in new technologies either as a company or country, then our success will quickly disappear.

Throughout our history, Berry has worked cooperatively with federal, state, and local governments with the mutual goal of growth that in turn creates new jobs that generates consumer spending and tax revenues in our communities. When it all works, we create exciting new products for our customers, new jobs for our communities, and increased value for our shareholders.

A great example of this is our new thermal packaging technology that we have branded Versalite, an example of which you have in front of you. Hopefully, nobody will ever have to burn their hand again on a cup of coffee here coming soon to a coffee store near you. So to fully develop the initial conceptual ideas behind Versalite, we

had to invent a new material, new product, and a new manufacturing technology.

I am very pleased to say that all of this is being installed in our new factory in Madisonville, Kentucky. The support extended by the state and local agencies in the proximity of the new plant to our core engineering base in Evansville made locating in Kentucky the right decision for Berry Plastics. Manufacturing at this one facility should create over 400 new jobs for a community in need of employment opportunities for its citizens.

However, it is important to understand that not only is the competitiveness of America's manufacturing industries vital to the stability and success of our local communities, it is also vital to our national security. While Berry has not historically participated extensively in government contracts, we have done some work in the past but are not currently working on any active contracts.

To be successful, Berry, like other manufacturing companies, must have the ability to invent state-of-the-art products, manufacturing processes, and equipment, but it is imperative that we have the ability to recruit and train the best workforce in the world. The most important single factor that determines our success at Berry and the key to maintaining and expanding America's leadership in manufacturing lies in the development of outstanding engineers, scientists, and our manufacturing labor force. In this regard, Berry—and companies like Berry, have benefited from the important partnerships that we have with universities, vocational schools, and government laboratories and agencies. The strengthening of that relationship between private industry and government is a vital part of the legislation being proposed.

My own personal experiences a good example of the long-term benefits of government investments in research and development for which I have always been grateful. As an undergraduate student at Iowa State, I worked in the Department of Energy's Ames lab. While a graduate student, I worked on the research sponsored by the National Science Foundation in the Air Force Office of Scientific Research.

I am pleased to appear here today in support of the goals targeted by H.R. 2447. The bill's objectives of promoting growth, jobs, sustainability, and competitiveness is vital to our national interest and critical to helping us progress in recovering from the economic downturn, the lingering effects of which continue to be felt by companies like Berry.

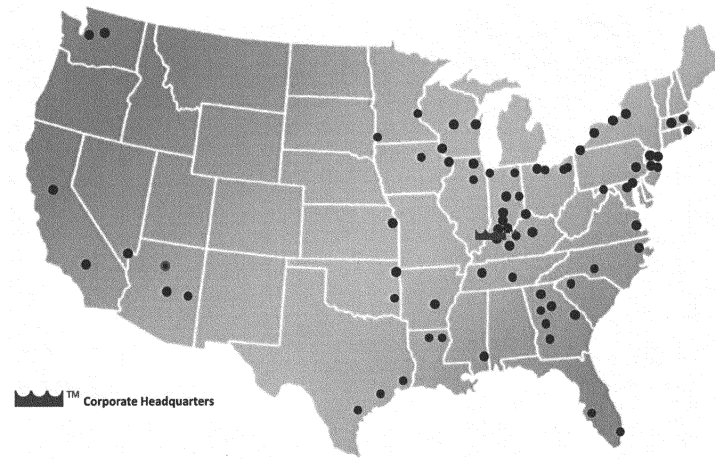
Perhaps the most important aspect of the proposed legislation is the goal of supporting the development of skilled workforce. The government is in a unique position to support manufacturing-related research and development at United States universities and vocational institutes. It is important that this support contain both generic and targeted objectives. Government agencies such as NSF, the Department of Energy, National Institute of Standards, Department of Defense, NASA, and others are particularly well-suited to carry out this mandate.

In light of the time, let me close by saying that to succeed it is imperative that we invest in new materials and manufacturing processes like those being supported in this bill. I am happy to support the bill and would be willing and interested in participating

in however the private sector may be involved in the development of the strategic plan. I thank you very much for the opportunity to appear here.

[The prepared statement of Mr. Rich follows:]

Good afternoon Mr. Chairman and members of the Committee. My name is Jon Rich. I am the Chairman and CEO of Berry Plastics Corporation. Berry Plastics, headquartered in Evansville, Indiana, and Indiana's 8<sup>th</sup> Congressional District, is one of the largest food, personal care, healthcare, pharmaceutical, and industrial packaging companies in the United States. Starting from a small beginning in 1967 with three employees and one plastic injection molding machine, today we employ over 15,000 people at approximately 70 US manufacturing and warehousing facilities, which are located in more than 30 different states.



A significant milestone was reached last October, when we took the Company public and shares of our Common Stock began trading on the New York Stock Exchange. While Berry Plastics is not a household name, we have over 13,000 customers and we manufacture over 50,000 different packages, with our products being found in nearly every household in America.



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Throughout our history Berry has worked cooperatively with federal, state, and local governments with the mutual goal of growth, that in turn creates new jobs that generates consumer spending and tax revenues in our communities. When it all works we create exciting new products for our customers, new jobs for our communities, and increased value for our shareholders. A great example of this is our new thermal packaging technology that we have branded as Versalite. To fully develop the initial conceptual ideas behind Versalite we had to invent a new material, a new product, and a new manufacturing technology. I am very pleased to say that all of which are being installed in our new factory in Madisonville, Kentucky. The support extended by the State and Local agencies, and the proximity of the new plant near our core engineering base in Evansville, made locating in Kentucky the right decision for Berry Plastics. Manufacturing at this one facility should create over 400 new jobs for a community in need for employment opportunities for its citizens.

However, it is important to understand that not only is the competitiveness of America's manufacturing industries vital to the stability and success of our local communities, it is also vital to our national security. While Berry has not historically participated extensively in direct government contracts, we do some work on federal contracts.

To be successful Berry, like other manufacturing companies, must have the ability to invent state-of-the-art products, manufacturing processes, and equipment, but, it is imperative that we have the ability to recruit and train the best workforce in the world. The most important single factor that determines our success at Berry, and the key to maintaining and expanding America's leadership in manufacturing, lies in the development of outstanding engineers, scientists, and our manufacturing labor force. In this regard, companies like Berry have benefitted from the important partnership that we have with universities, vocational schools, and government laboratories and agencies. The strengthening of that relationship between private industry and government is a vital part of the legislation being proposed.

My own personal experience is a good example of the long-term benefits of government investments in research and development, for which I have always been grateful. As an undergraduate student at Iowa State University I worked at the Department of Energy's Ames Laboratory. While a graduate student at the University of Wisconsin in Chemistry I conducted research sponsored by the National Science Foundation and the Air Force office of Scientific Research. As a staff scientist at General Electric's Global Research Center I was involved in projects with the Air Force, Navy, and NASA. Later, as President of

Goodyear's North America Tire business, we benefitted from a close collaboration with Sandia National Laboratory that helped us invent state-of-the-art tires that had improved performance and enhanced safety features.

I am pleased to appear here today in support of the goals targeted by HR 2447. The bill's objective of promoting growth, jobs, sustainability, and competitiveness is vital to our national interests and critical to helping us make progress in recovering from the economic downturn, the lingering effects of which continue to be felt even now by companies like Berry.

Perhaps the most important aspect of the proposed legislation is the goal of supporting the development of a skilled workforce. The government is in a unique position to support manufacturing related research and development at the United States' universities and vocational institutions. It is important that this support contain both generic and targeted objectives. Government agencies such as the National Science Foundation, the Department of Energy, the National Institute of Standards and Technology, the Department of Defense, NASA, and others are particularly well suited to carry out this mandate.

With the appropriate cooperation and investment between private industry and the government, significant achievements can be accomplished to enhance and improve our country's manufacturing competitiveness and ultimately create the growth and job creation that we all seek. A great example of this potential is in the development of America's newly discovered shale gas resources. These resources, if properly developed, have the potential to create an industrial revolution in the United States not seen since the post World War II years.

America's abundant shale gas and oil reserves offer the potential for low cost energy and energy independence from imported oil. It also will provide a source of globally competitive raw materials, such as the plastic resins used by Berry that will allow the creation of new products and technologies here in the United States. The development of these resources in and of themselves will require new manufacturing technologies that have the potential to create thousands of jobs. The secondary effect of the invention of processes to convert these natural resources into new materials will create even more jobs than the mere extraction of the oil and gas themselves. Of course to succeed all of these things must be accomplished with the objective of doing so while protecting our environment and preserving our quality of air and water resources. There are those today that think that these goals cannot be mutually accomplished. This I could not disagree with more. America's historical strength and economic leadership has been grounded in the principal of responsible progress. Responsible progress means that we can develop and utilize our natural resources, while simultaneously protecting our environment.

To succeed in these endeavors it is imperative that we create new materials and manufacturing processes to employ these materials. It will require new diagnostic techniques to monitor and improve process efficiencies. It will also require manufacturing technologies that reduce the ergonomic stress on employees who operate the machinery, while improving the overall safety of manufacturing industries. Furthermore, it will require that we develop manufacturing capabilities that reduce energy

consumption, minimize emissions, and can be conducted in a sustainable manner that protects the environment. We must accomplish all these things, in a manner that has a globally competitive cost structure, while creating the most innovative products in the world. The aforementioned can be accomplished and are the kinds of things that Americans have excelled in. With the proper strategic plan, similar to that proposed in HR 2447, the appropriate balance of public and private investment, and the combined commitment of America's government and private industry, the essential goals for increased growth and job creation can be achieved.

In closing, I would like to add that I would be willing and interested in participating in, however the private sector may be involved, the development of the strategic plan. I thank you again for the opportunity to appear here today.

Dr. Jonathan D. (Jon) Rich is currently Chairman and Chief Executive Officer of Berry Plastics Corporation, a position he has held since October 2010. Berry Plastics, headquartered in Evansville Indiana, is one of the largest global manufacturers of flexible and rigid plastic packaging for food, personal care, pharmaceutical, healthcare, and industrial applications. Berry Plastics has a portfolio of more than 13,000 products, has 88 global manufacturing facilities with approximately 70 of those being located in the United States, and has more than 15,000 employees. Revenue in 2012 exceeded \$4.7 billion. In October 2012, Berry became a public company listed on the New York stock exchange under the ticker BERY.

Prior to joining Berry, Dr. Rich was the CEO of Momentive Performance Materials, headquartered in Albany, New York, a \$2.5 billion global manufacturer of specialty materials in the quartz and silicone fields. In October 2010 Momentive merged with Hexion LLC, a global manufacturer of specialty epoxy and phenolics headquartered in Columbus, Ohio, to create Momentive Holdings LLC a \$7 billion specialty chemical company. Dr. Rich is currently a member of the board of directors.

From 2000 to 2007 Dr. Rich worked at the Goodyear Tire and Rubber company of Akron, Ohio, first as Director of Chemical Research and Development and subsequently as President of Goodyear's global Rubber and Chemical business and then as President of the \$10 billion North American Tire Division.

Dr. Rich spent 18 formative years in business at General Electric Co, first as a research chemist at GE's Global Research Laboratory in Schenectady New York and subsequently in a variety of R&D and manufacturing management positions in GE's Materials and Plastics businesses. While at GE he had overseas assignments in Germany and Japan.

A native of Des Moines, Iowa, Dr. Rich has a Bachelor of Science degree in Chemistry from Iowa State University and a PhD in Chemistry from the University of Wisconsin-Madison. In 2010 he was granted an Honorary Doctor of Science degree from Iowa State. Dr. Rich is an inventor with more than 25 issued United States Patents and has published fourteen scientific journal articles. He is a past director of the Rubber Manufacturers Association and the International Institute of Synthetic Rubber Producers. He is a member of the American Chemical Society and the Society of the Plastics Industry.

Chairman BUCSHON. Thank you, Dr. Rich.

Ms. Wince-Smith, you are recognized for five minutes for your testimony.

**TESTIMONY OF MS. DEBORAH WINCE-SMITH, PRESIDENT AND CEO, COUNCIL ON COMPETITIVENESS**

Ms. WINCE-SMITH. Thank you, Chairman Bucshon, Ranking Member Lipinski, and Members of the Subcommittee, for inviting me to discuss H.R. 2447, the *American Manufacturing Competitive-ness Act of 2013* introduced by Congressman Lipinski.

My name is Deborah Wince-Smith, and I am the President and CEO of the U.S. Council on Competitiveness. This organization, almost 30 years old, is a nonprofit, nonpartisan organization comprised of CEOs, labor leaders, university presidents, and national laboratory directors. We come together to set an action agenda for U.S. competitiveness, productivity, and leadership to raise the standard of living and security for every American.

Although America remains the world's top producer, our Nation has surrendered important manufacturing sectors. They were not all lost in the pursuit of cheap labor or the result of products becoming low-margin commodities. We have lost production of cutting-edge innovations developed in America because, among other reasons, we have had tax, regulatory, workforce-skills challenges, finance, and infrastructure limitations that made production elsewhere more competitive.

The Council on Competitiveness has long recognized that technologically advanced manufacturing and production is essential to our Nation's economic growth, prosperity, and national security. Indeed, America's leadership in the development and deployment of next-generation manufacturing is directly linked to our future innovation capacity across all sectors of our economy, including the service economy.

In 2009, the Council launched our flagship U.S. Manufacturing Competitiveness Initiative under the leadership of Samuel Allen, a CEO and Chairman of Deere, our Chairman of the Council, and a distinguished group of CEOs, university presidents, labor leaders, and lab directors. Since the start of this initiative, we have held over 18 strategic dialogues across the country, including most recent discussions on the future of additive manufacturing hosted at Oak Ridge National Lab and cyber-enabled manufacturing hosted at Sandia National lab. These strategic dialogues have together hundreds of experts and practitioners from the broader network of the Council, including CEOs from multinationals and startups, research universities, community college presidents, and the laboratory environment as well, and we together challenge ourselves to think: what can we do to achieve America's full manufacturing potential and accelerate the innovation that underpins this transformation?

The central recommendation and analysis of the manufacturing initiative have been captured in our landmark report *MAKE: An American Manufacturing Movement*, which we released to the Summit in 2001. MAKE plays out many policies and actions the Council recommends to develop a national manufacturing strategy, including many in the concrete initiatives the Administration and

Congress have implemented, such as in advanced materials, smart sensors and robotics, additive productions, data analytics, and cyber security, and digital fabrication utilizing the power of high-performance computing for large enterprises and ensuring we bring this capability down into the supply chain of our small and medium-sized businesses.

The Council has called for policy reform and legislative action to create an innovation-friendly ecosystem to attract, retain, and support from startup to scale-up the high-value investment in manufacturing production. We have worked with Deloitte to produce two ground-breaking reports looking at what CEOs around the world think about manufacturing competitiveness. In both reports, CEOs ranked access to innovative talent and national economic policies such as trade, tax, IP protection, and standards as the top two drivers of manufacturing competitiveness.

The Council has long recognized that the cost and access to sustainable energy has a huge impact across every sector. We are very excited to form a new partnership with the Department of Energy, the American Energy and Manufacturing Competitiveness Partnership, to explore the pivotal linkages between energy and new opportunities for the public and private sectors to develop new models for energy efficiency and to embed energy productivity through all manufacturing processes.

Without strong public and private support for the complete lifecycle innovation and production process, the United States cannot maximize the return on its innovation investments measured in jobs, growth, tax revenue, and national security.

In closing, we urge Congress and the President to develop and implement a national manufacturing strategy to maximize America's manufacturing potential. The *American Manufacturing Competitiveness Act* under consideration today by the Subcommittee is key to our future. The Council strongly supports an enactment by the House and Senate.

Thank you again, Mr. Chairman, for having me today, and I look forward to your questions.

[The prepared statement of Ms. Wince-Smith follows:]

**Deborah L. Wince-Smith  
President & CEO  
Council on Competitiveness**

**Testimony before the U.S. House of Representatives Committee on  
Science, Space, and Technology Subcommittee on Research and  
Technology**

**Legislative Hearing  
July 10, 2013  
2:00 p.m. 2318 Rayburn House Office Building**

**Summary**

The U.S. manufacturing sector is a key engine of innovation, wealth generation, job growth and national security. America cannot retain its position of leadership in the global marketplace without a robust and vibrant industrial base.

Although America remains the world's top producer, our nation has surrendered important manufacturing sectors. They were not all lost in the pursuit of cheaper labor, or as a result of products becoming low-margin commodities. We have lost production of cutting-edge innovations developed in America because of tax, regulatory, skill, finance and infrastructure limitations that make production elsewhere more competitive.

The challenges U.S. manufacturers now face are too complex and varied to be solved with the isolated policy approaches of the past. Instead, as a nation, we must develop and implement a comprehensive strategy that addresses the myriad barriers confronting our

manufacturers. The following testimony will address several of these barriers, and speak to the critical need for a comprehensive national manufacturing strategy in greater depth.

**Introduction**

Thank you, Chairman Bucshon, Ranking Member Lipinski, and Members of the Subcommittee for inviting me to discuss H.R. 2447, the American Manufacturing Competitiveness Act of 2013, introduced by Congressman Lipinski.

My name is Deborah Wince-Smith and I am the President and CEO of the Council on Competitiveness. The Council is a non-profit, non-partisan organization composed of CEOs, labor leaders, university presidents, and national laboratory directors working to ensure U.S. prosperity. Before I turn to discuss Representative Lipinski's bill, I would like to take a moment to contextualize my remarks.

**The Council on Competitiveness and Manufacturing**

In December of 2011, the Council released *MAKE: An American Manufacturing Movement* – a comprehensive national manufacturing strategy. *MAKE* represents the culmination of more than 18 months of exhaustive research that began with the launch of the Council's flagship U.S. Manufacturing Competitiveness Initiative (USMCI). Led by Samuel R. Allen, Chairman and CEO, Deere & Company; Chairman, Council on Competitiveness, the USMCI is a multi-year effort that is beginning a new dialogue on the policies and practices necessary to ensure the long-term success of American manufacturing. Since its inception, the USMCI has convened a dynamic cross-section of

America's top private sector leaders, representing the entire manufacturing value chain, to develop comprehensive policy solutions that will make the United States the most fertile and attractive environment for high-value manufacturing.

The USMCI builds on the heritage of two landmark Council efforts of the past decade. The 2004 National Innovation Initiative, which identified advanced manufacturing as an over-the-horizon issue to be addressed in order to preserve U.S. innovation capacity, and the 2009 Energy Security, Innovation and Sustainability Initiative, that yielded important insights about securing the future of U.S. manufacturing.

#### **The Road to *MAKE***

Concurrent with the launch of the USMCI in 2010, the Council and Deloitte Touche Tohmatsu Limited (DTTL) Global Manufacturing Industry group released the *2010 Global Manufacturing Competitiveness Index*, a survey of 400 C-suite manufacturing executives worldwide on manufacturing competitiveness today, and global competitiveness over the next five years. The *Index* is a groundbreaking analysis of the decision-making process in the manufacturing sector, and has been a strategic tool to advance the Council's work since its release.

Building on the findings in the *2010 Index*, the Council and Deloitte again teamed to develop the *Ignite* report series: a multi-part, interview-driven project that captured insights from diverse leadership groups across the American manufacturing landscape.

The first report, *Ignite 1.0 – Voice of American CEOs on Manufacturing Competitiveness*, was released in February of 2011, and recorded the input of nearly 40 CEOs on the measures necessary to advance U.S. manufacturing. Many of you may recall my testimony before this subcommittee in March of 2011 about this important report. The second, *Ignite 2.0 – Voices of American University Presidents and National Lab Directors on Manufacturing Competitiveness* was released in August of 2011, and highlighted the perspectives of over 30 leaders in higher education and advanced research on the role education, research and discovery play in ensuring America’s manufacturing future. Released in December 2011, *Ignite 3.0 – Voice of American Labor Leaders on Manufacturing Competitiveness*, the third and final *Ignite* report, featured the insights of more than a dozen of America’s top labor leaders on the measures needed to reinvigorate the domestic economy and encourage growth of well-paying, high-skills jobs in the United States.

Another major thrust for the USMCI is the ongoing “Out-of-the-Blue” dialogue series, through which Council members across the country host dynamic manufacturing discussions. These strategic conversations have brought together over two hundred experts and practitioners from the Council’s broader network – including CEOs from multinationals and start-ups, research university and community college presidents, national lab directors, labor leaders and others. Dialogue topics range from Accelerating Commercialization and Deploying Advanced Materials to Increasing Access to Risk Capital and Building a World-class Workforce. Participants challenged themselves and

the nation to re-think what can and should be done to achieve America's full manufacturing potential, and their collaboration revealed many unexpected solutions. These efforts, in conjunction with ongoing research by Council staff, were distilled to form the Council's *MAKE* report, and the recommendations it puts forth.

Last year at the Council's inaugural National Competitiveness Forum, the Council and Deloitte Touche Tohmatsu Limited (DTTL) Global Manufacturing Industry group released the 2013 Global Manufacturing Competitiveness Index (GMCI). This report includes more than 550 survey responses from senior manufacturing executives around the world with 39.7 percent from North America, 28.5 percent from Asia, 21.0 percent from Europe, 5.4 percent from South America and 5.4 percent from Australia. Consistent with the 2010 GMCI, of the 38 countries ranked by executives China was again ranked the most competitive manufacturing nation in the world today and five years from now. In addition, talent-driven innovation was deemed the most important driver of a nation's competitiveness. Within talent-driven innovation, the quality and availability of scientists, researchers and engineers and the quality and availability of skilled production workers are ranked as the first and second most important of the 40 individual sub-components of competitiveness drivers. Catapulting into the second most important driver position is the economic, trade, financial and tax system of a nation, moving up from fourth place in the 2010 GMCI. Trade, financial, and tax policies have now supplanted labor and materials costs, supplier networks, infrastructure, energy costs, and everything else as a

more important driver of a nation's competitiveness, demonstrating executives' recognition of government leaders' increasing efforts to use public policy as an enabler of economic development.

Which is why we are here today, and it is my honor to speak to you today to help inform the development of a strong manufacturing strategy for the good of our nation.

### **The Importance of a National Manufacturing Strategy**

Manufacturing is a cornerstone of American independence, innovation, economic prosperity and national security. Manufacturing is deeply integrated with services and has a higher multiplier effect on the economy than at any time in history. Manufacturing includes research, development, production, sales, distribution, logistics, customer service, marketing and support. It extends from the making of physical products to the delivery of services. Understanding the breadth and depth of today's manufacturing is essential to develop policies that ensure the United States will be competitive in the long-term.

Today, there are enormous opportunities to increase U.S. production and grow exports. The digital, biotechnology and nanotechnology revolutions are unleashing vast potential for innovation, manufacturing and services. They will enable new business formation, product development and job creation. In some cases they will serve as platforms for new industries and markets, but strategic government support is essential to fully realize these opportunities.

Supporting American manufacturing does not mean an industrial policy of selecting favored sectors or firms, subsidizing decaying industries, or protection from fair competition. These tactics, while used at times, rarely prove effective over the long-term. Instead, the government should focus on creating the right conditions for manufacturing to thrive, especially given the changing dynamic of global competition and the steady rise of state-supported capitalism.

We applaud the increased public and political attention given to manufacturing. America's economic portfolio requires a healthy and growing manufacturing sector to tackle the grand macro-economic problems facing the country, like job creation, debt reduction and infrastructure investments. To that end, we urge Congress and the President to develop and implement a national manufacturing strategy to maximize America's manufacturing potential. And we are pleased that The American Manufacturing Competitiveness Act of 2013 is under consideration today by the Subcommittee, and we hope that it continues to make its way through both the House and the Senate.

The Council's *MAKE* report highlights many of the challenges outlined in The American Manufacturing Competitiveness Act of 2013, and calls for a comprehensive and integrated set of actions to support American manufacturing excellence. Of the key recommendations, *MAKE* emphasizes the following:

1. We need to enact fiscal reform, transform tax laws and reduce regulatory and other structural costs to fuel the innovation and production economy from start-up to scale-up. These policies must improve the rule of law, reduce uncertainty in the business climate, encourage risk-taking and ease access to investment capital.
2. We must utilize multilateral forums, forge new agreements, advance intellectual property protection, standards and export control regimes to grow high-value investment, expand exports, reduce the trade deficit, increase market access and aggressively respond to foreign governments protecting domestic producers.
3. We need to prepare the next generation of innovators, researchers and skilled workers at every level to harness the power and potential of American talent to win the future skills race. Production work today is knowledge work.
4. We must create national advanced manufacturing clusters, networks and partnerships, prioritize R&D investments, deploy new tools, technologies and facilities, and accelerate commercialization of novel products and services to achieving next-generation productivity through smart innovation and manufacturing.
5. And we need to develop and deploy smart, sustainable, secure and resilient energy, transportation, production and cyber infrastructures to create competitive advantage through next generation supply networks and advanced logistics and systems.

The adoption of comprehensive, pre-competitive policies – i.e. policies that do not provide undue advantage or disadvantage to a particular industry or sector – are of great importance to the long-term strength of our nation’s manufacturing base. The recommendations above address some of the most pressing challenges facing U.S. manufacturers today, and while useful if implemented individually, would have a far greater impact if implemented as a suite of solutions, geared to support organic growth of the American industrial base while strengthening and deepening critical domestic supply networks. Bills like The American Manufacturing Competitiveness Act of 2013 are important steps on the path towards a national manufacturing strategy; the tool through which to integrate otherwise disparate manufacturing policies into a comprehensive agenda that empowers America’s entrepreneurs, spurs economic growth and ensures our national defense.

Manufacturing is central to the life-cycle process that brings solutions to customers. This involves cutting- edge science and technology, design, modeling and simulation through advanced computing, systems engineering, testing and verification and the contributions of complex supply networks. It also involves a wide range of services and transactions, transportation, maintenance and energy, plus the talent of many occupations—all of which are in addition to “bending metal.” Firms that commercialize new technologies and scale production grow faster, are more profitable and create more jobs than do other firms.

Unfortunately, government policies and programs tend to focus almost exclusively on product R&D, technology transfer and, in some ways, early stage commercialization. These phases are all critically important, but manufacturing at scale and manufacturing technologies are often not considered a part of the innovation ecosystem. In fact, they are often discounted, creating a negative ripple throughout the manufacturing value chain. A broad array of government policies, both foreign and domestic, have important impacts on the innovation and production process, from research funding to taxes to market access. Presently, U.S. policies are not aligned with the full life-cycle perspective of innovation that includes production at scale.

Without strong public and private support for the complete life-cycle innovation and production process, the United States cannot maximize the return on its innovation investments—a return measured in jobs, growth and tax revenue. Today, foreign investors—especially through sovereign wealth funds—acquire production of U.S.-developed technologies and innovations. Even domestic investors typically condition their investment in new technologies on a business plan that directs manufacturing abroad.

The policies, programs, strategies and business models that worked in the past are inadequate to secure America's future. Government, business, labor and academic leaders must rethink and retool the nation's business environment to seize emerging

opportunities and address several shortcomings. These goals are best met through a national manufacturing strategy.

### **Conclusion**

Our global economic competitors aren't waiting. They are aggressively developing, implementing and succeeding with their own national manufacturing strategies. It's time to act in our self-interest.

Americans have always been pioneers, risk-takers and makers. Our task is to set those impulses free and embrace production once more. We must create a business environment that fosters breakthrough innovations, rapid commercialization and manufacturing at scale. Americans have proven adept at rising to the economic challenge of their time. Such a time is now for manufacturing. The Council has embraced manufacturing as well with our National Digital Engineering and Manufacturing Consortium connecting small and medium sized manufacturers with high performance modeling and simulation and our most recent endeavor – the American Energy & Manufacturing Competitiveness Partnership with the Department of Energy Office of Energy Efficiency and Renewable Energy to increase US competitiveness in the production of clean energy products and to increase US manufacturing competitiveness across the board by increasing energy productivity.

Beyond these programs, the Council on Competitiveness stands ready to work with you to set in place the policies needed to ignite a new era of competitive and sustainable manufacturing.

Thank you.

**The Honorable Deborah L. Wince-Smith  
President & CEO  
Council on Competitiveness**



An internationally renowned, leading voice on competitiveness, innovation strategy, science and technology, and international economic policy, Ms. Wince-Smith is the president & CEO of the Council on Competitiveness. At the Council, Ms. Wince-Smith spearheaded the groundbreaking National Innovation Initiative (NII) that played a pivotal role in creating a reinvigorated U.S. competitiveness movement. The NII shaped the bipartisan America COMPETES Act, created state and regional innovation initiatives, and brought a global focus to innovation. Ms. Wince-Smith led the Council's 2009 National Energy Summit & International Dialogue. She has led a widely acknowledged and highly successful bilateral dialogue between the United States and Brazil on competitiveness and innovation strategy, including leading the 2007 and 2010 US-Brazil Innovation Summits.

More recently, Ms. Wince-Smith created a coalition of over 60 CEOs, University Presidents, Labor Union Leaders and National Laboratory Directors to ignite an American Manufacturing Movement to modernize American's manufacturing base, create high-skilled, living-wage, American jobs; and, keep America competitive in the global marketplace.

She has more than 20 years of experience as a senior U.S. government official, most notably; she served as the nation's first Senate confirmed Assistant Secretary of Commerce for Technology Policy in the administration of President George H.W. Bush, overseeing federal technology transfer policy, implementation of the Bayh-Dole Act, and the White House National Technology Initiative. She has served on several federal Government advisory committees and currently serves on the Secretary of State's Advisory Committee on International Economic Policy. Ms. Wince-Smith is a Senate confirmed member of the IRS Oversight Board in charge of administrating the nation's tax laws.

Ms. Wince-Smith serves as a director of several publicly and privately held companies, leading national and international organizations, as well as U.S. government advisory committees. As a member of the Board of NASDAQ OMX, she served on the Audit, Compensation and Finance Committees. Ms. Wince-Smith currently serves as a Board Member of start-up technology companies specializing in hi-definition displays, consumer electronics and medical devices. She also serves as the Vice Chairman of Women Corporate Directors and on the board of the American Telemedicine Association, as well as the Lincoln Center Institute's Imagination Conversation. Ms. Wince-Smith is actively involved and serves on the non-profit, charitable boards of the U.S. Naval Academy Foundation and the Smithsonian National Board.

Ms. Wince-Smith, a valedictorian from Old Trail School in Akron, Ohio, graduated magna cum laude from Vassar College with a Bachelor of Arts degree. She was one of the first female students to enter King's College at the University of Cambridge, where she read for a Master's degree in Classical Archaeology. In 2006, she received an Honorary Doctorate in Humanities from Michigan State University.

Chairman BUCSHON. Thank you very much. That buzzing means they have called a vote but we will finish your testimony, Mr. Mottl, and then after approximately a 45-minute interruption, then we can—we will take some questions. So I recognize Mr. Mottl for five minutes for his testimony.

**TESTIMONY OF MR. ZACH MOTT, CHIEF ALIGNMENT  
OFFICER, ATLAS TOOL AND DIE WORKS, INC.**

Mr. MOTT. All right. Good afternoon. Thank you very much, Chairman Bucshon, Members of the Committee, Ranking Member Lipinski, for providing me the opportunity to speak before you today.

Manufacturing is a subject very near to my heart. I am the 4th generation of my family, since 1918, to own and operate our business, Atlas Tool and Die Works. I am also the Vice President and co-owner of Abet Industries, as well as Accushim, Inc. The businesses are located in Lyons and Lagrange, Illinois, in Representative Dan Lipinski's district. All three companies are my family's related businesses in precision manufacturing. We make various parts and assemblies for the defense, aerospace, telecom, electronics, medical, and industrial industries. Together we employ around 80 people.

I also serve as Chairman of the Tooling and Manufacturing Association of Illinois. TMA represents 1,000 small and medium-sized manufacturers in the Midwest and together we employ around 30,000 skilled workers.

As an advocate of the critical importance of a healthy and growing manufacturing sector in any national economy, I am here to support passage of the *American Manufacturing Competitiveness Act of 2013*. I commend Congressman Lipinski and Congressman Kinzinger for their great bipartisan work on this legislation. I think it is great that the Administration and Congress are also working to advance manufacturing policy. After all, we really haven't had a national manufacturing policy since Alexander Hamilton's "Report on Manufacturers" in 1791.

One thing that strikes me about this bill is that it makes no assumptions of the best path forward to ensure America is the global manufacturing leader. That is important because there are so many diverse opinions. We have heard from other experts that various things that the manufacturing sector might need. Some people feel free trade is a problem; others say it is tax policy or energy policy. Still other people say it is fine and nothing is needed. With all these opinions, it is difficult to develop a path forward and a much-needed national manufacturing strategy.

The bill creates a system to thoughtfully and methodically evaluate the issues surrounding the industry and then outlines a framework to develop a plan for success. As a business owner, I know planning is critical. Plan, execute, review: that is the basic core of any good business model. But unfortunately, when an organization doesn't operate with a plan, what happens is a plan to fail.

I also support the Administration's efforts in launching the National Network for Manufacturing Innovation. As you know, most of the innovation occurs at the local level and is realized by small and mid-size companies in small steps at a time as part of their

processes. However, there are some critical components we need from government to be successful. We need predictability and stability, especially in the areas of taxes and regulation. We need research and development tax credits to be permanent. We need a practical relationship between business and government. Too often, I find we are moving at different speeds with government usually moving slower than the private industry as needed to create innovation and jobs.

We need government programs to be easily accessible to small and mid-size manufacturers and to know what tools are available. Large manufacturers can more easily navigate the government juggernaut but small and mid-size companies like mine are often overwhelmed.

With regard to the much-discussed skills gap in our workforce, I believe there is a gap in manufacturing and here is why. As a generation of manufacturing shifted overseas, many high schools, technical schools, and even community colleges scaled back hands-on training programs. Today, with manufacturing on the rebound, jobs coming back to the United States, many manufacturers like myself can't find the skilled workers to run the highly complex technologically advanced machinery we now use. Many of the remaining training programs have become fragmented and disconnected. Too often students earn credentials that are not portable and are not nationally recognized.

There has been a lot of discussion about STEM recently, and I would be remiss if I didn't address the subject. I fully support STEM and agree with the need in this country for advanced learning. However, I submit that technical training needs to be on par with advanced learning. We need to offer young adults at least two tracks to career success where technical training is valued just as much as a four-year college degree.

Right now, the United States is operating without a plan in the world economy when it comes to manufacturing, and this is unacceptable for a global superpower. We simply must be the world leader in manufacturing. As we heard, manufacturing is a critical industry and does generate a lot of wealth and a great multiplier effect. In addition, we have got good jobs that values skills and you can find a lifelong career. It is critical for the national defense and additional facts are included in my written testimony.

Many other countries understand these facts. They are constantly and actively working to court manufacturers to work—locate within their borders. We live in a world with many competitors. They are working to surpass the United States in many areas, and if we ignore what they are doing and neglect to create our own strategy, I can assure you they will succeed.

China, Russia, Brazil, Canada, the U.K. have a clear and detailed strategy and they are actively working to foster success. They are asking the questions: What can we do to help you sell more product, be more competitive? How can you create more jobs? Furthermore, many of these countries already have developed best practices when it comes to supporting their sectors.

The *American Manufacturing Competitiveness Act* will not only bring the United States into line with our economic competitors but it will also compel us to study them and learn from them. This type

of benchmarking is a standard best practice management technique.

Ultimately, the success of any industry depends on many factors. However, our collective will to ensure and achieve success is probably the most important factor. This act and ultimately the strategy developed out of it is an important first step to ensure the long-term health.

I applaud Congressman Lipinski, Congressman Kinzinger for their leadership to develop and sponsor the bill. I urge you all to please pass this out of Committee and ultimately the full House. Thank you for your time and consideration and I look forward to your questions.

[The prepared statement of Mr. Mottl follows:]

TESTIMONY OF ZACH MOTT, CHIEF ALIGNMENT OFFICER, ATLAS TOOL & DIE  
WORKS AND CHAIRMAN, TOOLING & MANUFACTURING ASSOCIATION OF ILLINOIS  
BEFORE THE HOUSE COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY SUB-  
COMMITTEE ON RESEARCH AND TECHNOLOGY

JULY 10, 2013

Thank you very much Chairman Bucshon and members of the Committee for providing me the opportunity to speak before you today. Manufacturing is a subject very near to my heart. I am the fourth generation of my family, since 1918, to own and operate our business, Atlas Tool & Die Works, where I am Chief Alignment Officer. I am also Vice President and co-owner of Abet Industries as well as Accushim Inc. The businesses are located in Lyons and LaGrange, Illinois, which are Chicago suburbs in Representative Dan Lipinski's district. All three companies are my family's related businesses in precision manufacturing. Our companies make various parts and assemblies for the defense, aerospace, telecom, electronics, medical, industrial, and heavy machinery industries. Together we employ around 80 people. I also serve as Chairman of the Tooling & Manufacturing Association of Illinois. TMA represents nearly 1000 small and medium sized manufacturers in the Midwest who employ almost 30,000 skilled workers.

As an advocate of the critical importance of a healthy and growing manufacturing sector in any national economy, I am here to support passage of the American

Manufacturing Competitiveness Act of 2013. I commend Congressman Lipinski and Congressman Kinzinger for their great bi-partisan work on this legislation.

I think it is great that the Administration and Congress are working to advance manufacturing policy. After all, we really haven't had a national manufacturing policy since Alexander Hamilton's "Report on Manufactures" in 1791.

One thing that strikes me about this bill is that it makes no assumptions of the best path forward to ensure America is the global manufacturing leader. That is important because there are so many diverse opinions on what the manufacturing sector needs. Some people feel unfettered free trade is a problem, others say tax policy, others say energy policy, and still others say the industry is strong and nothing is needed. With these varying opinions, all from purported experts, it's very difficult to develop a path forward and a much-needed national manufacturing strategy.

HR 2447 takes a new approach, building on the Administration's successful development of the 2012 National Strategic Plan for Advanced Manufacturing by directing the National Science and Technology Council to develop a national manufacturing competitiveness strategic plan, with consultation with nongovernmental stakeholders. By building on the prior plan, and the expertise and knowledge that was developed through the 2012 report, this legislation intends to develop a more iterative process, with less cost and consistent with prior Administration work and legal authority. Furthermore, by utilizing the NSTC, the

Strategy will benefit from a true across-the-government perspective and bring together the many agencies, and their expertise, that interact with American manufacturing. These changes were the result of broad consultation with various stakeholders in Congress, the manufacturing sector, and the Administration.

This bill creates a system to thoughtfully and methodically evaluate the issues surrounding the industry and then outlines a framework to develop a plan for success. As a business owner, I know planning is critical; Plan, Execute, Review. That is the basic core of any good business model. Unfortunately, when an organization doesn't operate with a plan, what occurs is a plan to fail.

I also support the Administration's efforts in launching the National Network for Manufacturing Innovation. As you know, most of the innovation occurs at the local level and is realized by small and mid-size companies. However, there are some critical components we need from you to be successful. We need predictability and stability, especially in the areas of taxes and regulation. We need research and development tax credits to be made permanent. We need a practical relationship between business and government. Too often, we are moving at different speeds, with government usually moving slower than the pace we require to drive innovation and create jobs. We need these government programs to be easily accessible to small and mid-size manufacturers and to know what tools are available. Large manufacturers can more easily navigate the government juggernaut but small and mid-size companies are often intimidated and overwhelmed.

With regard to the much discussed “skills gap” in our workforce, I believe there is a gap in manufacturing and here’s why. As a generation of manufacturing shifted overseas, many high schools, technical schools and even community colleges scaled back on hands-on training programs. Today, with manufacturing on the rebound and companies large and small re-shoring their operations, many cannot find the skilled workers needed to run highly complex machinery. Many of the training programs that remain have become fragmented and disconnected. Too often students earn credentials that are not portable and are not nationally recognized.

That said, we are not standing on the sidelines. We have stepped swiftly into the void and offer training for the next generation of Illinois’ manufacturing professionals. Our blended learning approach provides potential hires and the employees of our member companies with the flexible and high-quality training they need to maximize their potential. We offer traditional classroom training, including our renowned Related Theory curriculum, the cornerstone of a solid education in manufacturing, as well as online training from leading providers Amatrol and Tooling U to allow our members the flexibility to train whenever and wherever they choose. We also provide certifications from the Manufacturing Skills Standards Council (MSSC) and the National Institute for Metalworking Skills (NIMS) to ensure our students meet the rigorous standards necessary for success in manufacturing.

In the education arena, the key here is to build a set of stackable and transferable credentials that encourage current and potential workers to continue to develop their skills. These credentials should combine training at vocational schools, community colleges and trade associations. Association based training needs to be taken seriously. We were there before all this became popular and we have a proven track record of turning out highly skilled employees. Also, our credentials need to be transferable to community colleges and vice versa. We want our workforce to consider “careers” in manufacturing instead of just “jobs.”

There has been a lot of discussion about STEM recently and I would be remiss if I did not address this subject. We fully support STEM and agree with the need in this country for advanced learning. However, I submit that technical training needs to be on par with advanced learning. We need to offer young adults at least two tracks to career success where technical training is valued just as much as a 4-year college degree.

We continue our traditional and non-traditional outreach programs and education efforts. This summer, in addition to our annual Manufacturing Summer Camp, we are launching our “Bridgework and Pathways Initiative” focused on augmenting manufacturing training programs at Illinois’ 48 community colleges. Our recent release of a Smartphone app puts job offers and other just-in-time resources in the hands of potential workers.

Right now the United States is operating with a plan to fail in the world economy when it comes to manufacturing. This is unacceptable for a global superpower. We simply must be the world leader in manufacturing. Why is the competitiveness of this sector so important? First, manufacturing is a keystone industry in any economy. Most economists agree that for every sales dollar in manufacturing there are \$2-3 dollars of supporting activities required. This is the highest multiplier effect of any industry. In addition, manufacturing creates good jobs that value skills, jobs with healthy benefits and also jobs where you can find a lifelong career. Manufacturing is critical to national defense as well as product innovation. Finally, manufacturing is one of the fastest growing sectors of the world economy. It requires capital investments in land and equipment, it requires many factors of production, and in short is simply one of the fastest ways to jump-start employment, investment, and innovation.

Here are the “Facts of Modern Manufacturing” provided by the National Association for Manufacturing (NAM):

- In 2012, manufacturers contributed \$1.87 trillion to the economy, up from \$1.73 trillion in 2011. This was 11.9 percent of GDP. For every \$1.00 spent in manufacturing, another \$1.48 is added to the economy, the highest multiplier effect of any economic sector.
- Manufacturing supports an estimated 17.2 million jobs in the United States—about one in six private-sector jobs. Nearly 12 million Americans (or 9 percent of the workforce) are employed directly in manufacturing.

- In 2011, the average manufacturing worker in the United States earned \$77,060 annually, including pay and benefits. The average worker in all industries earned \$60,168.
- Manufacturers in the United States are the most productive in the world, far surpassing the worker productivity of any other major manufacturing economy, leading to higher wages and living standards.
- Manufacturers in the United States perform two-thirds of all private sector R&D in the nation, driving more innovation than any other sector.
- Taken alone, manufacturing in the United States would be the 10th largest economy in the world.

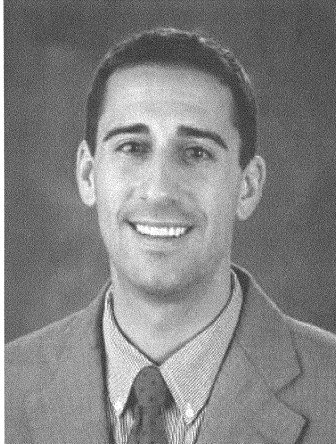
Many other countries understand these facts. They are constantly and actively working to court manufacturers to locate within their border and not ours. We live in a world with many competitors and they look at our position with envy. They are working to surpass the United States in many areas and if we ignore what they are doing and neglect to create our own national manufacturing strategy I can assure you these competitors will succeed.

Countries like China, Russia, Brazil, Canada, Germany, the UK, and others have a clear and detailed national manufacturing strategy. They have decided what critical industries they want within their borders and are actively working to foster success. They are asking the questions, "What can we do to help you become more competitive? How can we help you sell more product and create more jobs?" Whether its consideration of a VAT vs. an income tax, adding or removing tariffs and import barriers, providing regulatory relief, requiring domestic production, creating low-cost loan and financing programs, or even playing matchmaker between

suppliers and customers, these countries are working in a concentrated and organized effort towards success.

Furthermore, many of these countries already have developed best practices when it comes to supporting their manufacturing sectors. The American Manufacturing Competitiveness Act will not only bring the United States into line with our economic competitors but it will also compel us to study them and learn from them. This type of benchmarking is a standard best practice management technique.

Ultimately the success of any industry depends on many factors. However, our collective will to ensure and achieve success is probably the most important factor. The American Manufacturing Competitiveness Act and ultimately the National Manufacturing Competitiveness Strategy is an important first step to ensure the long-term health and success of our overall economy. I applaud Congressman Lipinski and Congressman Kinzinger for their leadership to develop and sponsor this bill. I urge you all to pass this bill in committee and ultimately the full House. Thank you for your time and consideration of this important legislation, and I look forward to your questions.



**Zachary J. Mottl**  
Chief Alignment Officer (CAO)  
**Atlas Tool & Die Works, Inc.**

Chairman  
**Tooling and Manufacturing Association of Illinois (TMA)**

Atlas Tool & Die Works, Inc.  
4633 South Lawndale Avenue  
Lyons, Illinois 60534  
708.442.1661 Main  
708.442.0016 Fax  
zachm@atlas-tool.com  
atlas-tool.com

**Zachary Justin Mottl** is the fourth generation of his family to own and operate Atlas Tool & Die Works, Inc. The company, founded in 1918, is a world class precision manufacturing facility offering a broad array of metal manufacturing services. In his current role as Chief Alignment Officer (CAO) Zach works not only to improve business with new and current customers, but also to engage in outreach, develop strategy, and find operational improvements and alignment at Atlas and the family's related businesses including Accushim Inc. and Abet Industries.

Zach is an advocate for the value and importance of domestic manufacturing in any healthy state or national economic model. He is serving a second term on the TMA Board of Directors and in 2011 was elected by the board to serve as TMA Chairman in 2013. TMA is Illinois' premier full-service manufacturing association with over 1000 member companies. Zach is the Chairman of the TMA PAC and Government Relations Committee and is serving a 2<sup>nd</sup> term on the Board of Trustees for the TMA Education Foundation Trust. The trust is a multimillion dollar education foundation established by industry to fund outreach, education, and promotion of careers in manufacturing.

Zach serves on the Industrial Advisory Board for the University of Illinois at Chicago department of Mechanical and Industrial Engineering and works with the DOE funded UIC Energy Research Center.

In 2005 he was elected to serve a 4-year term as Director of Government Affairs for the Illinois Defense & Homeland Security Association (IDHSA).

Zach was appointed by Illinois Governor Pat Quinn to the Taxpayer Action Board (TAB) in 2009. The same year he was appointed by Burr Ridge Mayor Gary Grasso to his Economic Development Committee.

In October of 2010 Zach was appointed by Illinois Governor Pat Quinn to serve a two-year term on the Broadband Deployment Council of Illinois.

Zach also serves on the Advisory Board for the American High Speed Rail Association (AHSRA) and is an advocate for the importance of high speed rail and intercity rail development in the US supported by domestic manufacturing of the HSR trains and related components.

In June of 2012, Zach was invited to give testimony before the Subcommittee on Commerce, Manufacturing and Trade of the U.S. House of Representatives Committee on Energy and Commerce. Zach testified in favor of the National Manufacturing Strategy act which passed in the US House of Representatives in 2012.

Zach lives in Burr Ridge, IL and in his limited free time enjoys kayaking, running, skiing, cooking, playing the piano, and gardening.

Chairman BUCSHON. Thank you very much.

At this point, we have been called to a vote so the Committee will stand in recess while we vote and reconvene ten minutes after the last vote. That would be in approximately 45 minutes to an hour. Thank you.

[Recess]

Chairman BUCSHON. The Committee will come back to order.

Thanks again for the patience of our witnesses and everyone in the crowd and the Members. And we wanted to make sure with the great testimony of our witnesses that we had an opportunity to ask some questions that would help us along the lines of what we are discussing today and as it relates to manufacturing.

I will recognize myself for five minutes to start the line of questioning, and I will start with Dr. Rich.

If you had two or three things that Congress could do to help improve America's competitiveness in manufacturing, could you give us a little insight about what you think those might be?

Dr. RICH. Yes. Again, I think the number one most critical item is that we develop and create a base of well-trained and skilled people. The investments that the bill will make in that training, the investments in research and development, making sure that we have the most competitive workforce available in the world, I think that is the number one priority that—for companies like ours where we are vitally dependent on our engineering base. So I would urge the Committee to make sure—to make the appropriate investments in people.

Secondly, I think the investments in medium- and long-term research projects are also vitally important. Along those lines, the government is especially well-equipped to invest in the development of certain vital technologies, including materials, diagnostics, sensors, ergonomics, investments in technology that will ensure that our work places are both productive and safe and so forth.

So—but I completely agree with your opening statement in that we should be careful not to over-intrude into the marketplace and try to pick, as you say, winners and losers. I think there, private industry is much more adapted to both responding to the marketplace and, frankly, to taking the bumps when those decisions turn out to be wrong. Private industry and our investors know what those risks are when they take them as opposed to taxpayers, I think, who are oftentimes, you know, less sure of what those risks might be in advance. So I completely agree with your position on that.

Lastly, I think the third thing that I would say is that—to have a longer-term perspective, to have a longer-term perspective on the vital technologies that are going to be necessary again ranging from the capabilities and logistics, the ability to manufacture things rapidly and on time are going to be very important. So those are three things that I would say.

Chairman BUCSHON. Great, thank you. And I will talk with Ms. Wince-Smith.

My understanding is that some of our trading partners require transfer of intellectual property, IP, in exchange for access to their markets. China, for instance, has set certain IP transfer requirements through forced partnerships with American companies. In

other cases, IP has been stolen through cyber espionage. How important is it for our manufacturing strategy to consider these unfair trade practices other countries are doing that may be detrimental to American manufacturing?

Ms. WINCE-SMITH. Well, I think it is absolutely critical and I think it is a bedrock issue. There is, as we know, tremendous innovation in the next generation of capabilities of manufacturing, and there is no question that it is being targeted. We have the data and facts on the cyber attacks that are coming from China and other parts of the world but particularly China after specific intellectual property. It is also being acquired, as you mentioned, Mr. Chairman, through the forced technology transfer that goes and partnerships.

But I do think we have to change the way we deal with intellectual property in terms of the infringement and protection. Right now, the burden is really on those entities who have been infringed as opposed to the infringers. And, you know, just as we have very strict standards, legal standards, and industry standards around safety and health for food products that—what comes into the country, how it is made, and all those things, one of the suggestions I would have is that we need to think about creating a new standard for intellectual property certification that when any component or product comes in to this country and any finished entity, there has to be a certification from the producer that they have not infringed intellectual property just as they have to do this.

So an example I would use is Kellogg's cereal. When they make cereal in Europe, they have five standards to meet on how much vitamin D goes in and they do that in order for this product to be sold.

And so I had the honor to be—and I am on the IP Theft Commission that is chaired by former Governor Jon Huntsman and retired Admiral Dennis Blair, and our report came out in May, just one factoid. If China had the level of intellectual property protection that the United States has, the estimate in this report is we would have an additional \$1 trillion in GDP and 2 million more jobs.

Now, the manufacturing part is key to this and so that has to be at the heart of any national manufacturing strategy.

Chairman BUCSHON. Great, thank you. My time has expired. Mr. Lipinski is recognized.

Mr. LIPINSKI. Thank you. I am usually watching and I know exactly when the—when my time is coming, but I am very interested in listening to what the responses that you had were and there are some things I want to follow down—you know, continue up on.

But first I want to thank all of you for your support of the legislation, and certainly, I think most people here agree and I certainly agree that we don't want to be here picking winners and losers but there is so much more that can be done just sort of to set out the environment, create the environment, because there is so many government—I think that is one of the things that I have faced with this bill is people say, well, just let the private sector be. But we all know—you all know that there is a lot of ways that the government is impacting manufacturing already. It is just not doing it necessarily in a smart, thoughtful manner. So I thank all of you for the support of the bill.

I look forward to trying out this cup, and tomorrow morning when I drink a cup of tea, I will put the hot water in there and test that out. So thank you, Dr. Rich.

And, Ms. Wince-Smith, thank you for all of your work with the Council on Competitiveness. We have worked together on a lot of manufacturing issues, and I think it is very important that you raised technologically advanced manufacturing here because I think a lot of people, when they think about manufacturing, they don't think about advanced manufacturing and about new technology and the opportunities that are available and more and more are being made available every day, especially through the great research and development that is going on in this country at private industry and also in our research universities and national labs.

And so I think that is very important that people don't just think about manufacturing as what we have done in the past, although we don't want to abandon that. We want to continue to do that type of manufacturing, but we also have to look to the future.

But I want to start—I want to follow up on one of the points that Dr. Rich had said about education and workforce. Mr. Mottl, in your testimony you mentioned that the Tooling and Manufacturing Association of Illinois has a new program, the Bridgework and Pathways Initiative, focusing on augmenting the manufacturing and training programs of 48 of Illinois' community colleges. Can you tell us a bit more about this initiative and its goals because obviously this is something that we all understand is critical right now, and some people look out there and say how could you possibly have a shortage of qualified workers in anything with our high unemployment? But I hear that from manufacturers all the time is the difficulty in finding qualified workers. So can—Mr. Mottl, can you tell us about that program, anything else you want to talk about in that area?

Mr. MOTT. Thank you. Yes, well, the Bridgework and Pathways program is—our goal is to get kind of a standard curriculum going among the 48 community colleges so I, as a manufacturer, know that if you have a certification in 5 axis precision machining, it is a standard program and I know what I am getting when I hire an employee. Also, to help build enthusiasm for these type of programs, a lot of times, you know, parents don't want their children to go into these programs and what I would really love to see from the Federal Government is the Department of Education revalue these training programs.

But we find with students who go into them and ultimately come to work for my member companies is that they are like to come and go from the program. They will come and they will take some courses, they will get a certificate, and then they will work for a little bit but they will come back and take some more classes and layer that together. So what we are trying to do is develop a set of stackable credentials that can add up ultimately to a degree. Maybe you would take some capstone courses or some humanities courses and then end up with a degree. So the whole time they are working, they are earning a living with one of our member companies hopefully, and earning a degree that will ultimately add up to—whether it is an associate's degree or a four-year college degree.

But we have just found that in general the programs are very fragmented, everybody a different program, and it didn't necessarily jive with what manufacturers like myself wanted out of the program. So that is what we are doing with Bridgework and Pathways.

Mr. LIPINSKI. Thank you. And I will yield back the rest of my time and hopefully have a chance to ask a few more questions. Thank you.

Chairman BUCSHON. Ms. Esty, you are recognized for five minutes.

Ms. ESTY. Thank you, Chairman Bucshon, for holding today's hearing, and I am proud to join Representative Lipinski in cosponsoring this important legislation. And I want to thank the three of you for your patience with our unpredictable voting schedule.

I, too, want to follow up on this discussion, this very important discussion about workplace—workforce development because it really does seem to be in a lot of ways the linchpin.

In Connecticut we are working very hard on these same issues. I have a long-time manufacturing district which is struggling with this, and I am hearing from manufacturers in my district like Ward Leonard in Thomaston and Access Technologies in Farmington and Altek Electronics in Torrington and hearing directly from these same questions about certification programs, access to training programs, credentialing issues. And frankly, one of the issues that we have been struggling with is the legacy of having lost these manufacturing jobs in the past, and we have been looking at this issue about young people who might be very interested themselves if they knew more about the salary ranges, what the work entailed, but their parents or grandparents may be deeply suspicious because their experience was so bad with these jobs having been lost.

Now, that being said, you know, from your perspective and experience, what do we think the best way is to engage young people? How do we bring them in? Is this something we should be looking with getting better teaching and more exciting teaching in elementary and secondary school in STEM technologies? Should this be around apprenticeship-in-training programs? You know, what can you suggest to us is the best route to go?

Mr. MOTT. I am assuming that is for me. Yes, I have an interesting perspective on that. So we have done a summer camp program at TMA. That is one of our first steps. We now do a program for young kids. I think they are in the fifth grade and sixth grade and they come to our summer camp program on manufacturing. In fact, it is going on right now. It is a 2-week program and a lot of what we do is we take them to manufacturers and show them the high-tech manufacturing. It is computerized. It is one person operating multiple machines that are doing multiple operations. It is really high-tech stuff. And I think that manufacturers, especially small ones, we sell ourselves short and forget to say we are high-tech. We really are. And so that is one program we have done.

Also, we have together a pamphlet—had the pleasure of having—Sydney Hoyer came to visit and we were able to show him at TMA the pamphlet that we have for young people, and what it does is it shows different careers in different wage ranges and salaries and

the training you need to get there. So you can see that if you spend a few thousand dollars and take a couple months of certification programs, you can come out right away making 30, 40, even \$50,000 a year as a machinist. And that is where you get the parents excited. They say, boy, I don't have to load up on 30 grand in college debt. I can take a few thousand dollars of training courses and come right out and be working.

So I think that is important to get the parents on board because I personally have hired people and had a young person ready to take the job and the parents said, no, you are not going to go work in manufacturing. That is not the career for you. So I think that is important.

Also, we have Women in Manufacturing Committee at TMA who is working with the Girl Scouts to get a program going getting young girls into engineering and STEM programs. So I don't know all the details of the program because they are just putting it together, but that is something that they are working with the Girl Scouts in Chicagoland area again at a very young age.

Ms. ESTY. And actually for all of you following up on this, we have discussed previously in this Subcommittee the German model and looking at what Germany has done in its vocational training. And for all three of you, if you could suggest to us whether you—what lessons you think are learnable by us for best practices for beefing up that relationship between the business community and the educational community to provide the skills we need now?

Dr. RICH. Well, I can speak directly to that having lived in Germany for three years and worked in a chemical facility there. I was able to participate in the training program there.

I think, look, we have to have the appropriate apprentice-in-training programs here in the United States. We do it a little bit differently here. In Europe, many times the companies will take multiple years of apprentice programs but people also commit to working their whole lives with the same company. Here we have the dilemma of people moving company to company more, and this is where I think there is a great opportunity for partnership between private enterprise and the government.

In the State of Indiana we have a terrific program through the Ivy Tech vocational schools. At Berry we take tremendous advantage of that. Those kinds of—and we also provide a lot of the financial support for that in addition to the government. So I think those kinds of government industry cooperations can be a terrific part of what this bill is all about.

Ms. WINCE-SMITH. I would just add that, you know, the workforce boards in each State have access to significant funding from the Department of Labor and that we really need to ensure that those resources are being aligned with the demands and needs that are coming, you know, from the employers as a first order.

Secondly, there are a number of very innovative advanced labor unions. I will mention the pipefitters and plumbers in particular. I know that union very well. Its President is very active in the Council on Competitiveness. This union, you know, does very high-skilled work. They do the welding on nuclear subs. You go through their training, they pay for everything, you get a certificate as a journeyman welder. You make, depending on where you are in the

country, 60 to 80,000 a year. They are bringing that training to our military bases for returning veterans. It is a very strong partnership with the companies that use pipefitters and plumbers. So that collaborative ownership between business and labor needs to be extended to other parts of the economy.

And finally, I would say on the engineering issue that was raised, STEM is absolutely critical; we know that. But we also need to take the E in STEM and blow that out because at the end of the day everything we are talking about requires engineering, design engineering, engineering that goes through the whole product cycle. And we are not elevating the engineering discipline in this country to the way we can and should.

The Council on Competitiveness is making this a very thrust—big thrust. We are teaming with Lockheed Martin to create the National Engineering Forum, which we hope over time will become the Davos for engineering. But engineering is something that needs to start, you know, in K through 12 and really be elevated the way it was at different times in our history.

Chairman BUCSHON. Thank you. We will have I think one more round of questioning and then we will adjourn the hearing. I guess I can ask Dr. Rich this question. The nature of manufacturing today is very complex and it is difficult to clearly differentiate sometimes between manufacturing and the services that support it. How would you recommend the NSTC, Committee on Technology, take into account the very complex network of the players developed—when developing—involved when developing a manufacturing strategy? And is it appropriate to develop policies that treat manufacturing differently from other sections of the economy when there is such this interconnectedness? How do you fit that all together?

Dr. RICH. Well, I think the lines of distinction between service and manufacturing are clearly blurring, right. A lot of that has been driven by the tremendous advances in IT technology which allows you to put support and service into the products that you make. So I don't think you can disconnect those two subjects anymore and I would urge the Committee to think about how you take the appropriate technologies, especially in IT, and apply those.

When we make a product, our relationship with the customer doesn't end after we have at the product in a box and shipped it out. We have a lifetime responsibility for that product and a lifetime responsibility for the relationships with our customers. So I wouldn't draw a hard line of distinction there.

Chairman BUCSHON. Ms. Wince-Smith?

Ms. WINCE-SMITH. Yes, absolutely. Manufacturing and services are merging, blending as Dr. Rich said, and a lot of the value now comes from this merger. So you think of a company like Deere where, you know, they are making the most advanced high-tech equipment in the world for harvesting and agriculture and other applications. They are also a weather forecaster. They are a consultant to farmers. And all their—and all that gets wrapped around. And you think of the great potential of data analytics and all of that for enabling—advance that, too, as part of this.

So we really need to look at manufacturing in a different way with different language. It is an extended enterprise. Everything

from the ideation, the design, the advanced research, how the logistics supply chain enables this, again, that is a lot of IT capability and you know the whole—full lifecycle. So service innovation and how it links to manufacturing should be a very important part of the strategy.

Chairman BUCSHON. Mr. Mottl, you have comments on that?

Mr. MOTT. Yes, I would say, you know, as a small business, we are selling more and more services to our customers as well. They have outsourced their engineering. They don't do any work in-house. They say we need you to make the product. We need you to design it as well. So we will sell design services, but I would say maybe I am not an honest broker, but I think manufacturing is certainly the most important industry we have here. I mean clearly—but the multiplier effect is what speaks for it, you know.

When you are in manufacturing, you need transportation. It is the factors of production. You buy equipment and that requires shipping services. You need attorneys, you need lawyers. And obviously service needs, you know supporting—every industry has supporting services but manufacturers, simply because of the factors of production, whether you are bringing your raw materials in, you are shipping finished goods out, you are bringing equipment in, you are building a building to do it, you know, that is why I think it is the most important industry.

Chairman BUCSHON. Okay. Thank you. I yield to Mr. Lipinski.

Mr. LIPINSKI. Thank you. Yes, I am tempted to just use the five minutes and ask Ms. Wince-Smith to continue to say all these great things about engineers is one of the—as one of the dozen engineers in Congress, I like hearing the importance of engineers and engineering.

But I am going to have a general question first for Mr. Mottl, then Dr. Rich, and then Ms. Wince-Smith what you can add to that. The question is what can the—in your opinion what can the Federal Government do—I know, Mr. Mottl, we have talked about issues with the State, but leave those off the table. What could the Federal Government do to make your business more competitive?

Mr. MOTT. Well, you know, a lot of business owners will say just stay out of the way, and, you know, that is important, but setting a level playing field and setting a good table. I like to use the analogy of a buffet. If you set a great buffet out, we will all come and eat so—or, you know, whether it is the tax policy, energy policy. If we have good stable planning and policies, I can build my business around that. If I don't know what is going to happen tomorrow whether it is the R&D credit or energy policy, we saw a lot of products into the, you know, oil and gas production industry. Is that industry going to be growing like it is growing now or is it going to change in a few years? It is very hard. So stability is important from my perspective.

Transportation is really important, too. The Federal Government does a lot for transportation. I am constantly moving goods in, bringing in raw materials, and shipping out finished goods so I need a good, stable transportation network that is well maintained.

Of course, you know, we talked about the IP theft and trade issues. You know, I saw what happened in the telecom electronics industry. My company historically builds mechanical switching.

Western Electric was our customer, then AT&T, and all throughout, but I saw what happened when we kind of open the doors and bought the cheapest product we could buy. We lost a lot of the value that we added here in the United States when it went, you know, to the lowest-cost country.

So I think sometimes some government policies need to look at, you know, what is worthwhile to be building here? What is the cost of it? You know, you can pay less for a product but the value maybe isn't there because you didn't get the jobs, you didn't get the growth, you didn't get the tax from, you know, those jobs and that sale of the product. So a little bit smarter planning maybe on trade issues I think would be important for businesses like mine as well.

Mr. LIPINSKI. Dr. Rich?

Dr. RICH. Again, I think, first and foremost, the most important thing which again is being addressed in this bill is the investment in people.

Beyond that, I would say the appropriate balance of regulation is also important. Let me give you a specific example. My personal view is that we are on the cusp of one of the greatest industrial revolutions here in the United States that we have seen since maybe the beginning of the 20th century with the development of North American shale gas. That—this sheer extraction of the energy, the lower cost will create thousands of jobs, but the secondary industries which create new materials, new products based on that will create even more jobs.

We have to be able to develop this infrastructure and simultaneously protect the air and the water that we all need. I always view that is the concept of responsible progress. We can make responsible progress and develop these natural resources. It is going to require a lot of new technologies. I don't accept the fact that it can't be done and not simultaneously protect the environment. There is a tremendous opportunity for new technology there but we also have to have balanced regulations to make sure that we can take advantage of these resources.

This could be the greatest industrial revolution that we have seen certainly in my lifetime, and it will create an enormous number of jobs.

Mr. LIPINSKI. Thank you. Ms. Wince-Smith, anything to—you want to add to that?

Ms. WINCE-SMITH. I would just add, you know, I fully endorse what my two colleagues here have said. You know, the whole issue of America going from being a country that is energy weak to energy strong as we lead the transformations to a low-carbon world in the future is so important.

But one thing that government can do that no one else can do is to really capitalize and assist in the way these transformations in the science and technology and their deployment. You know, if we can be the country that, you know, develops and manufactures at scale non-lithium batteries, if we can be the country that, you know, sets the standards for additive manufacturing production, we know what the future is beginning to look like and there are ways in which if we capture the—not just the research but the deployment here, it will be huge.

And so this bill is very important because it talks about an integrated strategy. Defense Department has huge needs and capabilities here. You link that with NSF and DOE and the other parts of the government with the, it is just—we have tremendous potential. So connecting the dots, you all have in the government the capacity to do that and the private sector will really come to the table as well.

Mr. LIPINSKI. All right. Thank you.

Chairman BUCSHON. Thank you. Ms. Esty, five minutes.

Ms. ESTY. I would love to follow up on that last point and relate it to—for all three of you. First question is on the role of basic research and in manufacturing in particular if there are areas that—again that the Federal Government has an important role to play in basic research. So that is the first question. And the second one is this linkage that you just mentioned, Ms. Wince-Smith, about the linkage for deployment. We have some vigorous debate going on. We had votes this afternoon that had to go exactly around this issue. What should be the role of the Federal Government in deployment of technologies and of research that is being developed? So I would love your thoughts on both of those questions. Thank you.

Ms. WINCE-SMITH. I will just use one example that captures it. I had the opportunity two weeks ago to be at University of Toledo in Ohio and coming from Akron I knew Toledo but I wasn't aware that this university really did all the basic research for the jet-tisons of the solar industry that builds on their glass history and things. And, you know, they created—first solar came out of that entity but, you know, all the manufacturing, all the infrastructure went to China for a lot of the capital cost regulatory issues.

So somehow, we have to link this basic research where we still lead the world in many areas with the condition for ensuring deployment, and that of course gets to the power of government procurement, state procurement, as well as perhaps even—and this may sound a little pushing the envelope, but why can't we think the way some of our competitors do about creating some advanced manufacturing zones where there are huge privileges and opportunities to be the first users of these capabilities?

I heard in Toledo they have a plan to create buildings that will be net zero energy with the next-generation solar panels. How can we make that happen?

So it is exciting but we have some challenges because the rest of the world is looking at our basic research as the seed corn for their next-generation products and services, and we have got to make sure we capture the value here as well.

Ms. ESTY. One of the things that would be helpful to follow up on is this question I—which I think you are absolutely right about—state and government procurement being part of that investment by the society, by taxpayer dollars, and the society ensuring we develop those robust markets here, not just the technology that then is produced elsewhere, but that we put our bang for the buck behind it to get to scale because we aren't getting to scale. And that remains a problem. And it is not good enough just to develop the technology and license it to the world, or worse yet, have them steal it and take it and develop it elsewhere.

So helping us and thinking about the right way to do those procurement rules so it doesn't—picking winners and losers, you know, how do you develop criteria that is not picking winners and losers and yet is putting a goal out there that our great engineers and scientists work towards to achieve and then bid on and then take advantage of, as you mentioned, Mr. Mottl? We have to find a way to incorporate the value of producing it here, the value of those jobs, as compared to the value of paying people who can't find work.

And we need help on that because it isn't part of our calculation now and I think it should be. When you look at what is the lowest-cost producer for DOD, you should estimate the cost of not employing American engineers, the cost of not having visas for high-tech students who came to this country and would love to stay.

Mr. MOTTLE. Well, there is a great quote by Abraham Lincoln. I am going to butcher it a little bit on the numbers though. He said, you know, we can buy our rails from England and we will have the rails and they will have the gold or we can make the rails here for maybe a little more expensive. I am butchering the numbers, but he said then we will have the gold and the rails. So we need to think about that and that value.

But, you know, when we talk about the tech transfer, we had a unique discussion here before about Argonne labs. I am right there. My company is right nearby and they brought myself and some other small manufacturers in and said, hey, we have all these patents and technologies. How can we partner with you to get them? We scratched our heads and said, you know, we just don't have the capital. As a small business, access to some kind of low-cost capital where I could use that money and tie up this technology and have the time to figure out how to use it.

Where they said, you know, a lot of Korean companies buy up all their patents, in particular one company, and they have a lot of cash and I don't know if that cash is somehow supplemented through government programs, but that is—they are getting a lot of the technology simply because they have access to the cash. And if I had the ability to have the cash and the time to play with the technology, I know I could—you know, companies like mine could work with it.

Chairman BUCSHON. Okay. Thank you.

I would like to thank all the witnesses for their valuable testimony and the Members for their questions. The record will remain open for two weeks for additional comments and written questions from Members. The witnesses are excused and the hearing is adjourned.

[Whereupon, at 3:46 p.m., the Subcommittee was adjourned.]



## Appendix I

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ADDITIONAL MATERIAL FOR THE RECORD

SUBMITTED STATEMENT BY COMMITTEE RANKING MEMBER EDDIE BERNICE JOHNSON

Thank you, Mr. Chairman. This afternoon we are examining legislation—introduced by my colleague Mr. Lipinski—that would require the development of a national strategic plan for manufacturing.

I strongly believe that if the United States is to remain competitive in the long-term, we need to ensure that American companies maintain their capacity to manufacture new and innovative products here at home.

While the United States is struggling to sustain its competitive edge other countries are focusing their full attention on manufacturing. They are aggressively investing in research and development.

And they are implementing the policies and programs necessary to build a 21st century economy now.

We simply cannot afford to stand idly by and watch our competitors position themselves ahead of us. A robust and healthy manufacturing sector is just too important for our economy and our national security. That's why I am pleased that we are examining Mr. Lipinski's legislation today. We need to create a strategy that outlines a vision and set of goals for manufacturing.

I had hoped that my Republican colleagues would have agreed to my request to broaden the scope of today's hearing to include manufacturing legislation that I authored. It would have also been useful for the Committee to hear from the witnesses on proposals that may well be part of such a strategy. However, that being said, I've been recently been informed that my colleagues plan to hold a hearing on my bill in September.

My legislation, the Advancing Innovative Manufacturing Act of 2013—or the AIM Act, makes strategic investments in manufacturing research, development, and education. It brings the public and private sectors together to tackle the research needs of industry. It provides small and medium-sized manufacturers with innovation vouchers that will allow them to make their companies and products more competitive. And finally, it ensures that our community colleges are preparing students for the manufacturing jobs of the future.

We need our manufacturing sector to be the most sophisticated in the world, using the newest technologies and the most efficient methods and processes. By doing this, we can ensure the survival of our manufacturing sector and maintain our global leadership.

I am hopeful that while not specifically asked to comment on what should or should not be a part of our efforts to revitalize American manufacturing, today's witnesses can offer the Committee some recommendations on what areas we should prioritize.

Thank you, Mr. Chairman. I look forward to having a more detailed discussion of the programs proposed in my legislation in September as the Chairman has committed to me.

